

CLAIMS

What is claimed is:

- ✓ 1. A system for both screen printing and embroidering a workpiece, comprising:
a screen printing machine having a first hoop holder;
an automated embroidery machine having a second hoop holder; and
a hoop that interchangeably engages the first or second hoop holders, such that the hoop supports, centers, and rotationally aligns a workpiece during both screen printing and embroidery without having to remove the workpiece from the hoop between operations.
2. The system of claim 1, wherein the first and second hoop holders are identical.
3. The system of claim 1, wherein the hoop has a pair of opposed arms for interchangeably engaging the first and second hoop holders.
4. The system of claim 3, wherein the arms of the hoop and the first and second hoop holders are provided with registration and alignment features to ensure accurate centering and rotational alignment between the hoop and the screen printing and automatic embroidery machines.
5. The system of claim 1, wherein the first and second hoop holders are adjustable in a width direction to accommodate workpieces and hoops of various sizes.

6. The system of claim 1, wherein the hoop is formed from a metallic material to withstand the high temperatures required during a screen printing drying phase.

7. The system of claim 1, wherein a centering feature is screened on the workpiece during screen printing for aligning the workpiece with a needle of the automated embroidery machine.

8. The system of claim 1, wherein the screen printing machine has a frame, a platen mounted to the frame, a screen assembly mounted to the frame that is movable relative to the platen, and the first hoop holder is mounted to the frame adjacent to but spaced apart from the platen.

9. The system of claim 8, wherein the screen assembly has a pivot for enabling motion relative to the platen, and the first hoop holder is secured to the frame between the pivot and the platen.

10. A system for both screen printing and embroidering a textile substrate, comprising:
- a screen printing machine having a frame, a platen mounted to the frame, a screen assembly mounted to the frame that is movable relative to the platen, and a first tubular embroidery hoop holder mounted to the frame adjacent to but spaced apart from the platen;
 - an automated embroidery machine having a second tubular embroidery hoop holder; and
 - a tubular hoop having a pair of arms that interchangeably engage the first or second tubular embroidery hoop holders, such that the tubular hoop supports, centers, and rotationally aligns a textile substrate during both screen printing and embroidery without having to remove the textile substrate from the tubular hoop between operations.
11. The system of claim 10, wherein the first and second tubular embroidery hoop holders are identical.
12. The system of claim 10, wherein the first and second tubular embroidery hoop holders are adjustable in a width direction to accommodate textile substrates and tubular hoops of various sizes.
13. The system of claim 10, wherein the tubular hoop is formed from a metallic material to withstand the high temperatures required during a screen printing drying phase.

14. The system of claim 10, wherein a centering feature is screened on the textile substrate during screen printing for aligning the textile substrate with a needle of the automated embroidery machine.

15. The system of claim 14, wherein the screen assembly has a pivot for enabling motion relative to the platen, and the first tubular embroidery hoop holder is secured to the frame between the pivot and the platen.

16. The system of claim 14, wherein the arms of the tubular hoop and the first and second tubular embroidery hoop holders are provided with registration and alignment features to ensure accurate centering and rotational alignment between the tubular hoop and the screen printing and automatic embroidery machines.

17. A method of screen printing and embroidering a workpiece, comprising:
- (a) securing a workpiece in a hoop that is interchangeably mountable to a screen printing machine and an automated embroidery machine;
 - (b) mounting the hoop in a first hoop holder on the screen printing machine;
 - (c) screen printing on the workpiece;
 - (d) removing the hoop from the first hoop holder; and then
 - (e) mounting the hoop in a second hoop holder on the automated embroidery machine, such that the hoop centers and rotationally aligns the workpiece during embroidery without having to remove the workpiece from the hoop between operations.
18. The method of claim 17, wherein steps (b) and (e) further comprise providing identical first and second hoop holders.
19. The method of claim 17, wherein steps (b) and (e) comprise interchangeably engaging the first and second hoop holders with a pair of opposed arms on the hoop.
20. The method of claim 19, further comprising adjusting the first and second hoop holders in a width direction to accommodate workpieces and hoops of various sizes.
21. The method of claim 19, further comprising centering and rotationally aligning the hoop and the screen printing and automatic embroidery machines with registration and alignment features on the arms of the hoop and the first and second hoop holders.

22. The method of claim 17, wherein step (c) comprises screening a centering feature on the workpiece, and step (e) further comprises aligning the centering feature with respect to a needle of the automated embroidery machine.

23. The method of claim 17, further comprising providing the screen printing machine with a frame, a platen mounted to the frame, a screen assembly mounted to the frame that is movable relative to the platen, and positioning the first hoop holder adjacent to but spaced apart from the platen.

24. The system of claim 23, further comprising providing the screen assembly with a pivot for enabling motion relative to the platen, and securing the first hoop holder to the frame between the pivot and the platen.